ABSTRACT OF THE DISCLOSURE

A method and a system for measuring a relative position and orientation of range cameras using a movement of an object within a scene. In general, the present invention determines the relative pose between two cameras by measuring a path the movement of the object makes within a scene and calculating transformation parameters based on these measurements. These transformation parameters are used to determine the relative position of each camera with respect to a base camera. In a preferred embodiment, the present invention also includes other novel features such as a data synchronization feature that uses a time offset between cameras to obtain the transformation parameters. In addition, the present invention includes a technique that improves the robustness and accuracy of solving for the transformation parameters and an interpolation process that interpolates between sampled points if there is no data at a particular instant in time. Further, the present invention includes a system for determining a relative position and orientation of range cameras using spatial movement that incorporates the method of the present invention.

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